

Abstract

Sub
ag

The invention relates to an appliance for the gasification of carbon- and ash-containing fuel, residual and waste materials using an oxygen-containing oxidizing agent at temperatures above the melting point of the inorganic fractions, in a reaction chamber which is designed as an entrained-bed reactor, at pressures between atmospheric pressure and 80 bar, preferably between atmospheric pressure and 30 bar, the contour of the reaction chamber being delimited by a cooled reactor wall of the following structure, from the outside inward:

- pressure shell 3
- cooling wall 4
- water-cooled gap 5 between pressure shell 3 and cooling wall 4
- ceramic protection 6 for the cooling wall 4
- layer of slag 10

and the pressure and temperature of the cooling gap 5 between pressure shell 3 and cooling wall 4 being controlled in such a way that it can be operated above and below the boiling point of the cooling water, the pressure in the cooling gap 5 being higher than the pressure in the gasification chamber 1.

(Fig. 1)

Key to figures:

Figur → Figure